

Abstract

Methods and apparatus for measuring arterial compliance using combined noninvasive arterial tonometry and cuff oscillometry. Some embodiments include a calibration method using an oscillometric signal to calibrate the pressures of tonometric signals in a contralateral arterial site. The times at which two of the three oscillometric blood pressures (systolic pressure, mean pressure, diastolic pressure) are acquired are identified with times of uncalibrated tonometric pressure waveform. These blood pressures are then used to calibrate the tonometric pressure waveform along (optionally) with adjustments for head pressure. For example, a left brachial arterial cuff oscillometric signal is acquired coincidentally with an uncalibrated right radial arterial pressure tonometric signal. The time points of mean arterial pressure and diastolic pressure are determined from the oscillometric signal and identified with coinciding time points on the tonometric signal to produce a calibration. All pressures are then adjusted by the head pressure between the brachial and radial sites.